



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,089	02/26/2002	Hitoshi Takayanagi	020232	8614

23850 7590 07/10/2003

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 07/10/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,089

Applicant(s)

TAKAYANAGI *it al.*

Examiner

J. DOTE

Group Art Unit

1756

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 5/27/03
- ☒ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-4, 6-11 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-4, 6-11 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some* ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

1. The examiner acknowledges the cancellation of claim 5 and the amendments to claims 1, 6, 8, and 9 filed in Paper No. 6 on May 27, 2003. Claims 1-4 and 6-11 are pending.

The examiner notes that the marked-up version of amended claim 1 improperly amends the claim. The marked-up version merely replaces formula 1 with formulas 3, 4, and 6-9 without properly indicating the deletion of formula 1 and the addition of formulas 3, 4, and 6-9. See the marked-up version filed in Paper No. 6. 37 CFR 1.121(c)(1)(ii) states that "[t]he changes may be shown by brackets (for deleted matter) or underlining (for added matter), or by any equivalent mark." The clean copy of amended claim 1 is the version. The clean copy of the claim automa previously filed claim. The clean copy of been entered.

2. The objection to the s h in the office action mailed on Feb. 26, 20 graph 1, has been withdrawn in response to graphs beginning at page 17, line 17, e 3, page 38, line 3, page 46, line 15, page 47, line 9, page 54, line 1, and page 56, line 6, of the specification, filed in Paper No. 6.

The objection to the specification set forth in Paper No. 5, paragraph 2, has been withdrawn in response to the amendment to claim 6.

The rejection of claim 9 under 35 U.S.C. 112, second paragraph, set forth in Paper No. 5, paragraph 4, has been withdrawn in response to the amendment to claim 9.

The rejection of claims 1-7 under 35 U.S.C. 102(b) over US 6,063,537 (Nakamura), as evidenced by Japanese Patent 2000-81734 (JP'734), set forth in Paper No. 5, paragraph 9, has been withdrawn in response to the amendment to claim 1, limiting the organic pigment to be represented by any one of formulas 3, 4, and 6-9. Nakamura does not exemplify a magenta toner comprising such an organic pigment.

The rejections of claims 1-7 under 35 U.S.C. 102(e) over US 6,265,125 B1 (Anno), as evidenced by JP'734, and of claims 8-9 under 35 U.S.C. 103(a) over Anno, as evidenced by JP'734, combined with US 6,183,924 B1 (Nomura), set forth in Paper No. 5, paragraphs 10 and 11, respectively, have been withdrawn in response to the amendment to claim 1, as described supra. Neither Anno nor Nomura exemplifies a magenta toner comprising such an organic pigment.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4 and 6-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in the phrase "wherein R₁ represents a non-substituted phenyl group . . . R represents hydrogen . . . and R₃ represents an alkoxy group or an ester group" for lack of unambiguous antecedent basis in claim 1. None of the organic pigments represented by formulas 3, 4, and 6-9 comprise said R groups. It is not clear what formula contains said R groups.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2001/0033982 A1 (Ishikawa).

Ishikawa discloses a magenta toner comprising spherical toner particles having a 50% circular degree of 0.97. See example 3, paragraphs 0242 to 0257. The toner particles comprise a styrene-butylacrylate-acrylic acid binder resin having dispersed therein the magenta pigment of formula (A). Ishikawa's binder resin meets the compositional limitations recited instant claim 6. Ishikawa's 50% circular degree has the same definition as the roundness recited in instant claims 2 and 3. See

Ishikawa, paragraph 0131; and the instant specification, page 16. The 50% circular degree of 0.97 is within the ranges recited in instant claims 2 and 3. Ishikawa further discloses that the 50% circular degree is preferably 0.99 or less. Paragraph 0131. The value of 0.99 is within the range recited instant claim 4. The magenta pigment of formula (A) has the identical chemical structure as the pigment of formula (9) recited in instant claim 1.

Applicants' arguments filed in Paper No. 6 have been fully considered but they are not persuasive.

Applicants assert, without demonstration, that the organic pigments recited in instant claim 1 are not disclosed by Ishikawa.

However, as discussed in the rejection, Ishikawa's formula (A) is identical to formula 9 recited in instant claim 1. Accordingly, the rejection stands.

7. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,063,537 (Nakamura) combined with US 2002/0058193 A1 (Tosaka), as evidenced by American Chemical Society (ACS) File Registry Nos. 56396-10-2, 6448-96-0, 12225-06-8, and 67990-05-0.

Nakamura discloses a magenta toner comprising spherical toner particles having a roundness of 0.981. See Table 2 at

col. 27, example M-2. The toner particles comprise a wax and polyester binder resin A, which has a carboxyl group and an acid value of 3.3 mg KOH/g of binder resin, having dispersed therein the magenta pigment C.I. Pigment Red 184. See Table 1 at col. 19, polyester resin A; col. 19, lines 60-61; and col. 21, lines 28-33. Nakamura's polyester binder resin A meets the compositional limitations recited instant claims 6 and 7. Nakamura's roundness has the same definition as the roundness recited in instant claims 2-4. See Nakamura, col. 3, lines 1-27; and the instant specification, page 16. The roundness of 0.981 is within the ranges recited in instant claims 2-4.

Nakamura does not exemplify a magenta pigment as recited in instant claim 1. However, Nakamura discloses that "known pigments . . . are used as colorants for full-color toner." Col. 9, lines 13-14.

Tosaka discloses monoazo pigment compositions comprising a monoazo pigment of a specified structure and specified amounts of a β -naphthol compound of formula (2) and an aromatic amine of formula (3). Paragraphs 0046-0057. Tosaka teaches that the monoazo pigment of a specified structure may include C.I. Pigment Reds 31, 150, 176, 184, and 269, preferably C.I. Pigment Red 31, 150, 176, and 269. Paragraphs 0080-0081, Table 1-1 at page 25, production examples 1-1 through 1-8, and Table 1-2 at page 26, toners 1-1 through 1-8. The ACS File Registry Nos. 6448-96-0,

56396-10-2, 12225-06-8, and 67990-05-0 respectively identify C.I. Pigment Reds 31, 150, 176, and 269 as having the identical chemical structures as the organic pigments of formulas 4, 3, 6, and 9, respectively, recited in instant claim 1. Tosaka discloses that magenta toners that comprise its monoazo pigment compositions have excellent color reproducibility, gradation characteristic, light-fastness, and chargeability.

Paragraph 0039, and Table 1-3 at page 27, toners 1-1 through 1-8. The magenta toners are capable of forming a fixed image with excellent transparency. Paragraph 0042. According to Tosaka, the magenta toners are also capable of providing high quality full-color images with excellent color reproducibility. Paragraph 0041.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Tosaka, to use Tosaka's monoazo pigment composition as the magenta pigment in Nakamura's toner M-2, because that person would have had a reasonable expectation of successfully obtaining a magenta toner having the benefits disclosed by Tosaka.

8. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura combined with US 2002/0037466 A1 (Kanbayashi).

Nakamura discloses a magenta toner comprising spherical toner particles, as described in paragraph 7 above, which is incorporated herein by reference.

Nakamura does not exemplify a magenta pigment as recited in instant claim 1. However, Nakamura discloses that "known pigments are used as colorants for full-color toner." Col. 9, lines 13-14.

Kanbayashi discloses that magenta toners having a good hue can be provided when a compound represented by formula (1) and a compound of formula (3) are mixed and uniformly dispersed in the toner. Paragraph 0072-0075 and 0077-0078. According to Kanbayashi, the mixture comprising the compound of formula (1) and the compound of formula (3) provides magenta toners having the color tone of magenta in ink processes, and having good light-fastness. Paragraph 0076 and 0086. Kanbayashi discloses that the compound of formula (1) may preferably be represented by compounds of formulas (1-3), (1-4) or (1-5). According to Kanbayashi, "[t]his is preferable in view of the color tone control, stabilization of charge and so forth."

Paragraphs 0087-0088. Formulas (1-3), (1-4), and (1-5) have the identical chemical structures as the organic pigments of formulas 4, 7, and 9, respectively, recited in instant claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Kanbayashi, to use

Kanbayashi's mixture comprising the compound of formula (3) and the compound represented by formulas (1-3), (1-4), or (1-5), as the magenta pigment in Nakamura's toner M-2, because that person would have had a reasonable expectation of successfully obtaining a magenta toner having good hue and light-fastness as taught by Kanbayashi.

9. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,265,125 B1 (Anno) combined Tosaka, as evidenced by ACS File Registry Nos. 56396-10-2, 6448-96-0, 12225-06-8, and 67990-05-0.

Anno discloses a magenta toner comprising spherical toner particles having a roundness of 0.986. See Table 3 at col. 20, toner N. The toner particles comprise a wax and polyester binder resin B, which has a carboxyl group and an acid value of 24.9 mg KOH/g of binder resin, having dispersed therein the magenta pigment C.I. Pigment Red 184. Table 2 at col. 15, polyester resin B; col. 16, lines 50-51; and col. 18, lines 26-47. Anno's polyester binder resin B meets the compositional limitations recited instant claims 6 and 7. Anno's roundness has the same definition as the roundness recited in instant claims 2-4. See Anno, col. 4, lines 25-53; and the instant specification, page 16. The roundness of 0.986 is within the ranges recited in instant claims 2-4. Anno discloses that

its toner can be used in processes to provide full-color images with no fogging. See col. 20, lines 53-54; and Table 4 at col. 23, example 2.

Anno does not exemplify a magenta toner comprising a magenta organic pigment as recited in instant claim 1. However, Anno does not limit the type of magenta pigment used. Anno discloses that the "various known colorants, such as magenta color . . . may be used." Col. 9, lines 6-8. Anno discloses that magenta colorants may include, in addition to C.I. Pigment Red 184, C.I. Pigment Red 31. Col. 9, line 11.

Tosaka discloses monoazo pigment compositions comprising the monoazo pigment of a specified structure and specified amounts of a β -naphthol compound of formula (2) and an aromatic amine of formula (3). Tosaka teaches that the monoazo pigment may preferably include C.I. Pigment Red 31, 150, 176, and 269. The C.I. Pigment Reds have the identical chemical structures as the organic pigments of formulas 4, 3, 6, and 9, respectively, recited in instant claim 1. The discussions of Tosaka and the ACS File Registry numbers in paragraph 7 are incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Tosaka, to use Tosaka's monoazo pigment composition as the magenta pigment in Anno's toner N because that person would have had a reasonable

expectation of successfully obtaining a magenta toner having the benefits disclosed by Tosaka.

10. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anno combined with Kanbayashi.

Anno discloses a magenta toner comprising spherical toner particles, as described in paragraph 9 above, which is incorporate here by reference.

Anno does not exemplify a magenta toner comprising a magenta organic pigment as recited in instant claim 1. However, Anno does not limit the type of magenta pigment used. Anno discloses that the "various known colorants, such as magenta color . . . may be used." Col. 9, lines 6-8. Anno discloses that magenta colorants may include, in addition to C.I. Pigment Red 184, C.I. Pigment Red 31. Col. 9, line 11.

Kanbayashi discloses that magenta toners having a good hue can be provided when a compound represented by formula (3) and a compound of formulas (1-3), (1-4), or (1-5) are mixed and uniformly dispersed in the toner. Formulas (1-3), (1-4), and (1-5) have the identical chemical structures as the organic pigments of formulas 4, 7, and 9, respectively, recited in instant claim 1. The discussion of Kanbayashi in paragraph 8 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Kanbayashi, to use Kanbayashi's mixture comprising the compound of formula (3) and the compound represented by formulas (1-3), (1-4), or (1-5), as the magenta pigment in Anno's toner N, because that person would have had a reasonable expectation of successfully obtaining a magenta toner having good hue and light-fastness as taught by Kanbayashi.

11. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anno combined with Tosaka, as evidenced by the ACS File Registry Nos. 56396-10-2, 6448-96-0, 12225-06-8, and 67990-05-0, as applied to claim 1 above, further combined with US 6,183,924 B1 (Nomura).

The combined teachings of Anno and Tosaka render obvious a magenta toner as described in paragraph 9 above, which is incorporated herein by reference.

Anno does not disclose making its toner by the steps recited in instant claims 8-11. However, Anno discloses that its toner can be obtained by an emulsion dispersion granulation method. Col. 5, line 65.

Nomura discloses an emulsion dispersion granulation method which provides toner particles having a degree of roundness of not less than 0.97. Col. 4, lines 5-12. Nomura's method

comprises the steps of: (1) dissolving or dispersing a binder resin and a colorant in an organic solvent to form a mixture; (2) mixing and emulsifying the mixture of step (1) with an aqueous medium in the presence of a base and isopropyl alcohol to cause a phase inversion emulsification to form spherical particles; (3) separating the spherical particles from the aqueous medium; and (4) drying the separated particles. Col. 9, line 44, to col. 10, line 37; and toner preparation example 1 at col. 19. Nomura teaches that the binder resin can be a polyester resin having an acid value of 1 to 30. Col. 12, lines 20-21. As discussed in paragraph 9, supra, Anno's polyester binder resin B has an acid value of 24.9 mg KOH/g of binder resin. Nomura's method meets the steps of making a spherical toner as recited in instant claims 8 to 11, but for the particular magenta pigment of formula (1) recited in instant claim 1. However, as discussed in paragraph 9, supra, the combined teachings of Anno and Tosaka render obvious a spherical toner comprising a magenta pigment of formulas 3, 4, 6, or 9 recited in instant claim 1. Nomura discloses that its method provides toners where the additives, such as colorants, are dispersed and encapsulated. According to Nomura, when the additives such as colorants are present on the surface of the toner particles, the triboelectricity of the toner is reduced. Col. 6, lines 46-52. Nomura also discloses that its emulsification process has the advantages over a pulverization

process (the process exemplified in Anno) of greater ease of production and lower cost. Col. 7, lines 3-5. Nomura further discloses that its process easily provides toners with a sharp particle distribution which results in improved image quality. Col. 7, lines 11-13.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Anno and Nomura, to make the toner rendered obvious over the combined teachings of in Anno and Tosaka by the emulsion dispersion granulation method disclosed by Nomura, such that the resultant toner has the roundness required by both Anno and Nomura, because that person would have had a reasonable expectation of successfully obtaining a magenta toner having the benefits disclosed by Anno and Nomura.

12. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anno combined with Kanbayashi, as applied to claim 1 above, further combined with Nomura.

The combined teachings of Anno and Kanbayashi render obvious a magenta toner as described in paragraph 10 above, which is incorporated herein by reference.

Anno does not disclose making its toner by the steps recited in instant claims 8-11. However, Anno discloses that its toner can be obtained by an emulsion dispersion granulation method. Col. 5, line 65.

Nomura discloses an emulsion dispersion granulation method which provides toner particles having a degree of roundness of not less than 0.97. Nomura's method meets the steps of making a spherical toner as recited in instant claims 8 to 11, but for the particular magenta pigment of formula (1) recited in instant claim 1. However, as discussed in paragraph 10, supra, the combined teachings of Anno and Kanbayashi render obvious a spherical toner comprising a magenta pigment of formulas 3, 7, or 9 recited in instant claim 1. The discussion of Nomura and Anno in paragraph 11 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Anno and Nomura, to make the toner rendered obvious over the combined teachings of Anno and Kanbayashi by the emulsion dispersion granulation method disclosed by Nomura, such that the resultant toner has the roundness required by both Anno and Nomura, because that person would have had a reasonable expectation of successfully obtaining a magenta toner having the benefits disclosed by Anno and Nomura.

13. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicants are

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed; and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (703) 308-3625. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9311 (Rightfax) for after final faxes, and (703) 872-9310 for other official faxes.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Palestine Jenkins, whose telephone number is (703) 308-3521.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JLD
July 8, 2003


JANIS L. DOTE
PRIMARY EXAMINER
GROUP 1500
1700